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(54) **SIGNAL CONVERSION CIRCUIT**

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(57) Abstract:

PURPOSE: To attain a converter circuit obtainable a current signal of an enough large gain by only adding a Tr of little difference of area ratio with a transistor Tr required for signal conversion.

CONSTITUTION: Tr Q1, Q2 operate in the differential, and the collector of Q3 or Q8 performs output. The almost part of the collector current of Q1, Q2 is what runs as the collector current of Q4...Q7, and when Q4...Q7 are all in a same shape, the collector current of Q4, Q5 are equal, and also equal to those of Q6, Q7. Therefore, from the fact the collector current of Q1 and that of Q2 become equal, a small changed part of the collector current of Q1, Q2 in a differential type all becomes a changed part of the base current between Q4, Q5 and Q6, Q7, and change of these collector currents come to large. Therefore, by taking out the current equal to the collector currents of Q4, Q5 and Q6, Q7 from the collectors of Q3, Q8 respectively, it is possible to take out very large change of current as output with small change of input.

